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## The Myoleptini of the Americas (Diptera, Syrphidae)

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The discovery of a new *Myolepta* from Florida and two new ones from South America prompted us to inquire into the identification of all members of the tribe. We have seen the holotypes of *cornellia* Shannon and *aurinota* Hine and believe they are identical. A comparison of the holotype of *californica* Shannon with specimens of *lunulata* Bigot shows them to be the same. An examination of a paratype of Lovett's *carbicolor* indicates that it is *Cynorhinella bella* (Williston). *Chalcomyia calcitrans* Curran is definitely established as a synonym of *Leiota cyanea* (Smith).

The Mylopetini are not uncommon, although most collections contain only a few species. We have been fortunate to have representatives of nearly all the species, lacking only *Leiota anomala* (Shannon), *Myolepta braziliانا* (Shannon), and *Myolepta dolorosa* (Hull).

We are including *Lepidostola* in this tribe, primarily because of the close association of it to *Eumyiolepta* through the similarity of the genitalia. For this similarity, compare the figures of *Lepidostola vulturella* Hull (fig. 33) with *Myolepta* (*Eumyiolepta*) *greenei* (fig. 29) or *circularis*, both by Hull. We thus cannot agree with Hull in placing *Lepidostola* in the Chrysogasterini. Shannon also has placed it in the Myoleptini.

Our thanks are due to Drs. C. H. Curran, Paul O. Ritcher, Henry Dietrich, H. J. Reinhard, P. J. Darlington, Jr., and W. W. Wirth for the loan of material or help in other ways; and to Mr. J. N. Knull for the privilege of studying the Hine types at Columbus.

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Paratypes of the new species are in the authors' collections whenever available. Loew's types in this group could not be located.

#### KEY TO THE GENERA OF AMERICAN MYOLEPTINI

1. Many of the hairs of the head, thorax, and abdomen scale-like and appressed . . . . . 2  
     Hairs never scale-like, usually erect . . . . . 3
2. Antennae elongate, longer than the face . . . . . *Lepidostola* Williston  
     Antennae not elongate, much shorter than the face . . . . . *Eumyiolepta* Shannon
3. Mesonotum with a large flattened area posteriorly, metasternum hairy . . . . . *Chalcosyrphus* Curran  
     Mesonotum gently convex, metasternum hairy or bare . . . . . 4
4. Males broadly dichoptic, scutellum large, subquadrate; metasternum bare . . . . . *Leiota* Rondani  
     Males holoptic, scutellum rounded apically; metasternum generally pilose . . . . . *Myolepta* Newman

#### MYOLEPTA NEWMAN

*Myolepta* NEWMAN, 1838, Ent. Mag., vol. 5, p. 373. Type species, *Myolepta luteola* Gmelin (fig. 23).

*Myiolepta* NEWMAN, 1841, A familiar introduction to the history of insects, p. 226.

*Xylotaeja* RONDANI, 1844, Nuovi Ann. Sci. Nat. Bologna, vol. 2, p. 457.

*Eumyiolepta* SHANNON, 1922, Bull. Brooklyn Ent. Soc., vol. 16, p. 71. Type species, *Myolepta strigilata* Loew.

*Sarolepta* HULL, 1941, Jour. Washington Acad. Sci., vol. 31, p. 436.

*Myiolepta* and *Eumyiolepta* HULL, 1949, Trans. Zool. Soc. London, vol. 26, p. 339.

Medium-sized flies, generally dull colored to black. Antennae shorter than the face, arising from a distinct frontal prominence. Anterior cross vein distinctly before the discal cell. Femora enlarged, all with short stubby black bristles below on the apical half. Eyes of the males holoptic, the face tuberculate; of the female dichoptic, the face non-tuberculate. Metasternum pilose.

The subgenus *Eumyiolepta* differs only in the presence of scale-like hairs somewhere on the head, thorax, or abdomen.

#### TABLE OF SPECIES <sup>1</sup>

1. With scale-like hairs (tomentum) on the head or thorax (*Eumyiolepta*) . 2  
     Pile may be wiry but never flattened and scale-like (*Myolepta*) . . . . . 10
2. A yellow tomentose band in front of the scutellum . . . . . 3  
     Mesonotal pile uniformly over the surface, or in vittate rows . . . . . 4

<sup>1</sup> *Myolepta dolorosa* (Hull) omitted from key.

3. Wings with a distinct brown cloud, mesonotum with a circular band of yellow tomentum, leaving only one band anteriorly, which is interrupted (Argentina) . . . . . *circularis* (Hull)  
Wings more uniformly fumose, mesonotum with two interrupted bands of golden pile anteriorly (Honduras) . . . . . *transversa* Hine
4. Mesonotal pile not so flattened, wiry, and arranged in rows . . . . . 5  
Mesonotal pile flattened, evenly distributed . . . . . 6
5. Wings subhyaline, no distinct cloud . . . . . *auricaudata* Williston  
Wings with a distinct brownish cloud in the middle . . . . . *greenei* Hull
6. Abdomen without scale-like pile . . . . . 7  
Abdomen with scale-like pile, usually posteriorly . . . . . 8
7. Apical cross vein twice angled, with short spurs at the angles, legs yellowish brown (Brazil) . . . . . *braziliانا* (Shannon)  
Apical cross vein once angled, without spurs, legs strikingly bicolored black and yellow, wings with three brown clouds near the apex (Argentina) . . . . . *minuta* Fluke, new species
8. Basal half of abdomen yellow, hind femora yellow, scutellum triangular (Brazil) . . . . . *scintillans* (Hull)  
Abdomen generally black, hind femora black, scutellum rounded apically . 9
9. Face pale yellow on the lower slopes, tomentum of the mesonotum short (east of Rocky Mountains in North America) . . . . . *strigilata* Loew  
Face black in ground color, with considerable silvery pubescence (south-western United States) . . . . . *aurinota* Hine
10. Mesonotum with prominent black and gray vittae . . . . . 11  
Mesonotum shining or at most weakly vittate . . . . . 13
11. Apex of the abdomen yellowish red, tibiae largely yellowish (Chile, Argentina) . . . . . *haemorrhoidalis* (Philippi)  
Apex of the abdomen shining black or yellowish pollinose . . . . . 12
12. Apex of the abdomen shining blue-black (Chile) . . . . . *luctuosa* (Bigot)  
Fourth tergite with the apex heavily coated with golden pollen (Argentina) . . . . . *apicalis* Fluke, new species
13. Fourth tergite with long golden pile which approaches the scale-like appearance of *Eumyiolepta*, appressed and outer ends all pointing medially (Argentina) . . . . . *greenei* Hull  
Pile of the fourth tergite sparse, pale, and not brushed inwardly . . . 14
14. Basal two tergites or more reddish; legs, except apical segments of the tarsi, yellow (Florida) . . . . . *camillae* Weems, new species  
Basal segments at most yellowish, legs often darkened . . . . . 15
15. Abdomen entirely black, shining, femora and tibiae black (east of Rocky Mountains in North America) . . . . . *nigra* Loew  
Abdomen with yellowish markings basally, at least briefly on the sides of the first or second tergite . . . . . 16
16. Yellow on the second tergite confined to the basal corners, pile of the fourth tergite mostly black; pile of the mesonotum quite short, slightly erect, yellow (western North America) . . . . . *lunulata* Bigot  
Yellow of the second tergite usually more extensive; pile of the fourth tergite mostly pale yellow, on the mesonotum quite long, silky, and golden in color (east of Rocky Mountains in North America) . . . . . *varipes* Loew

*Myiolepta varipes* Loew

Figures 1, 25

- Myiolepta varipes* LOEW, 1869, Berliner Ent. Zeitschr., vol. 9, p. 79.  
*Myiolepta varipes* WILLISTON, 1882, Proc. Amer. Phil. Soc., vol. 20, p. 308.  
*Myiolepta varipes* WILLISTON, 1886, Bull. U. S. Natl. Mus., vol. 31, p. 128, fig.  
*Myiolepta varipes* JONES, 1907, Jour. New York Ent. Soc., vol. 15, p. 91.  
*Myiolepta varipes* HINE, 1913, Ohio Nat., vol. 14, p. 209.  
*Myiolepta varipes* METCALF, 1913, Bull. Ohio Biol. Surv., no. 1, p. 83.  
*Myiolepta varipes* HULL, 1923, Ohio Jour. Sci., vol. 23, p. 296.  
*Myiolepta pretiosa* HULL, 1923, Ohio Jour. Sci., vol. 23, p. 295.

Color variable but nearly always the second tergite and sometimes the third tergite with yellow on the sides, dorsum of the thorax with short brassy pile which is sometimes whitish. The female has no indication of a facial tubercle, which, however, is slightly evident in that of the western representative, *lunulata*. *Myiolepta varipes* is also somewhat smaller (7 to 8 mm.) than *lunulata* (8 to 9 mm.)

The color of the legs variable. Some specimens with the legs entirely yellowish red, others with darkened femora, tibia, and apical tarsal segments.

We can see no reason to retain *pretiosa* as a distinct species. All the differences pointed out by Hull will occur in normal variable combinations in specimens from various parts of the eastern United States and Canada. *Varipes* is an eastern species, and records from the west probably should be referred to *lunulata*.

Specimens before us are from Nebraska, Ohio, Mississippi, South Carolina, Pennsylvania, North Carolina, New York, Washington, D. C., Ontario, Kansas, Kentucky, Texas, Louisiana, Missouri, Georgia, and Virginia.

*Myiolepta lunulata* Bigot

Figure 26

- Myiolepta lunulata* BIGOT, 1883, Ann. Ent. Soc. France, p. 537.  
*Myiolepta lunulata* CURRAN, 1922, Canadian Ent., vol. 54, p. 18.  
*Myiolepta californica* SHANNON, 1923, Bull. Brooklyn Ent. Soc., vol. 18, p. 21.

Distinguished with difficulty from *varipes* Loew, slightly larger, yellow on the abdomen confined to the corners of the second tergite, not extensively produced along the sides as in *varipes*. The wing cloud is a little darker and more evident to the naked eye. The best character in the female that we have found is a slight indication of a facial tubercle, absent entirely in *varipes*.

The genitalia are remarkably similar to those of *varipes*, with about the same distribution of stubby spines on the superior lobe.

Specimens at hand are from California, Oregon, and Washington State.

We are not entirely sure that these representatives are *lunulata*, but as no other specimens of similar appearance come from the western sections of North America they must be Bigot's species. Below is our translation of his original description. Everything agrees well except the "large yellow lunulate spot on the second segment."

"Black; thorax and scutellum fairly shining, finely punctate and appearing naked; antennae and arista brown, apex of third segment yellow; front and face shining black, with whitish reflections [pubescence] on the sides; thorax with three short reflecting gray bands [vittae?] in front, sides pubescent gray; halteres whitish; abdomen covered with fine sparse gray pubescence, second segment with a large, yellow, lunulate spot, situated on each side; legs black; knees, base of the hind and mid tibiae, tarsi, except the apical segments, yellowish; wings grayish, paler at the base, stigma area with a transverse diffuse brownish spot. Length 9 mm. Mount Hood, Oregon, one male."

Location of holotype: British Museum (Natural History).

A comparison of the holotype female of *M. californica* Shannon, Sherwood, Mendocino County, California, July 1, 1907 (J. C. Bradley) (holotype located now in Cornell University collection), with specimens of *M. lunulata* Bigot shows the two to be the same.

*Myolepta camillae* Weems, new species

Figure 31

Readily distinguished by red basal abdominal tergites and reddish orange legs. Length, 7.5 to 9 mm.

MALE: Vertical triangle, prominent facial tubercle, medial area between facial tubercle and oral margin, and cheeks below suture shining black; dorsal surface of antennal process black, with bluish cast, becoming cupreous at apex; face and front otherwise black concealed by yellowish white pollen, which becomes an appressed, velvety pubescence on lower part of face. Whitish pile on shining surface of antennal process, along anterior, inferior, and posterior orbits, and on vertical triangle. First and second antennal segments reddish, third segment rather large, orbicular, wholly reddish yellow, with a reddish arista. Eyes distinctly contiguous.

Thorax shining bluish black, with fine subappressed fulvous pile on mesonotum and scutellum. On anterior and inner corners of humeri, and

broadly between and in front of humeri, grayish pollinose. There are faint indications of two narrow medial parallel fasciae extending backward from front of thorax to about middle, where they become lost. Pleura are shining black, with whitish pile on mesopleura, sternopleura, and pteropleura; soft, downy, light-colored pile covering metapleura thickly; hypopleura bare, except for a small clump of whitish pile before posterior spiracles. Mesosternum and metasternum whitish pilose.

Fore legs wholly reddish, except for blackish three distal tarsi; distal anterior and middle portion of femora with two rows each of black spines below; middle legs reddish, except for darkened coxae and two distal tarsi; hind legs reddish, except for darkened two distal tarsi and dark reddish coxae; hind femora with two thick rows of strong black spines below on distal third, becoming more generally distributed and gradually shorter towards base, disappearing before base. Legs otherwise yellowish pilose, densely golden pilose beneath basitarsi. All femora swollen.

Wings 7.5 mm. in length; darkened on distal three-fifths, especially behind tip of subcosta and near apex; costa wholly reddish yellow; other veins yellowish on basal two-thirds of wing; marginal cell open; anterior cross vein distinctly before middle of discal cell; there is only a faint trace of a stigmal cross vein; stigma luteous. Squamae large, whitish, golden ciliate; halteres yellow, their knobs orange.

First two abdominal tergites, base, and broadly along sides of third bright red (strikingly so in living specimen). There is a faint suggestion of a narrow medial stripe on second tergite. Posterior and medial portion of third tergite, all of fourth tergite, and hypopygium shiny black. First abdominal tergite pale pilose, at its greatest length (along sides) barely one-fourth as long as second tergite; second tergite subquadrate, with long, pale pile along sides, short black pilose on disc; third tergite short pale pilose along sides, with short, subappressed black pile on disc; fourth tergite with mixed black and fulvous pile, wholly pale pilose along lateral and posterior margins. Hypopygium and venter wholly pale pilose.

**FEMALE:** Similar to male, except that eyes are rather widely separated; front shining black, except for an interrupted pollinose fascia with front narrowest opposite ocellar triangle; prominent facial tubercle of male lacking, and concavity beneath antennae forms a steady curve to prominent oral margin; face and cheeks shining black, except for a broad pollinose band beneath antennae, continuing downward along eyes and separating cheeks and lower face; pile of front and vertex whitish; hind femora have black spines below on distal third, with a few short scattered spines below nearer base, but not so many as in male; third abdominal tergite broadly reddish on anterior three-fifths, except along sides, lacking

medial forward extension of black which is found in male. There are traces of red narrowly along posterior margin of third tergite and base of fourth tergite, which otherwise is shiny black.

Types: Holotype, male, Highlands Hammock State Park, Florida, March 18, 1952; allotype female, same locality, March 15, 1952. Paratypes: three males, same locality, March 15, 1952; male, same locality, March 17, 1952; two females, same locality, March 18, 1952. All specimens were collected by H. V. Weems, Jr., at bloom of *Ilex cassine* Linnaeus. Holotype and allotype in the American Museum of Natural History collection. One female and two male paratypes are in Weems's collection. Two paratypes, male and female, are in Fluke's collection; one male paratype is in the insect museum of the Department of Zoology and Entomology, Ohio State University. Weems takes special pleasure in naming this very pretty species after his wife, who is his favorite collecting partner.

Quite distinct from any other North American *Myolepta*, but probably is most closely related to *M. varipes* Loew.

*Myolepta nigra* Loew

Figure 24

*Myolepta nigra* LOEW, 1872, Berliner Ent. Zeitschr., vol. 10, p. 52.

*Myolepta nigra* and *Xylota* (?) *tuberans* WILLISTON, 1886, Bull. U. S. Natl. Mus., vol. 31, pp. 129, 225, pl. 4, fig. 15.

*Myolepta nigra* HINE, 1913, Ohio Nat., vol. 14, p. 207.

*Myolepta tuberans* SHANNON, 1916, Proc. Biol. Soc. Washington, vol. 24, p. 198.

*Myolepta nigra* GREENE, 1923, Proc. Ent. Soc. Washington, vol. 25, p. 87.

As the name indicates, this species is entirely black, yellow only on the mid and hind tarsi and reddish to brownish on the antennae. There are no yellowish spots on the abdomen such as are found on *varipes* or *lunulata*. The pile is generally pale, often dark on the mesonotum. Apical half of the wings tinged brownish, the stigma darker. Length, 8 to 10 mm.

This is a fairly common species in the northeastern United States and eastern Canada. It has been recorded from New York, New Jersey, Pennsylvania, Ohio, North Carolina, Mississippi, and Canada. Specimens before us in addition to those mentioned above are from New Hampshire, Maryland, Virginia, Kansas, Missouri, Ontario, Wisconsin, Texas, Michigan, Indiana, and Georgia.

*Myolepta luctuosa* (Bigot)

Figure 13

*Helophilus luctuosus* BIGOT, 1857, Ann. Soc. Ent. France, p. 296.

*Myiolepta luctuosa* SHANNON AND AUBERTIN, 1933, Diptera of Patagonia and South Chile, vol. 6, p. 151.

An entirely blue-black species, only the antennae orange; mesonotum gray vittate, wings hyaline. Length, 9 mm.

MALE: Front entirely covered with golden pubescence, the pile short, yellow; face with a prominent shining tubercle, a band of gray pubescence just beneath the antennae, a narrow band on the lower slopes reaching from the eyes to one-third of the distance to the oral opening; cheeks shining, pile pale. Antennae small, first segment dark, second paler, the third round and yellowish to orange.

Thorax shining blue-black, the mesonotum with four gray vittae, also gray pollen on the inner slopes of the humeri and along the side just above the wing base; an extremely narrow band in front of the scutellum and on the front edge of the scutellum; pleural pile virtually all black; scutellar pile black, with pale, outwardly projecting hairs just below the rim. Legs black, pile mostly black, with paler hairs basally on the femora and on the coxae. Metasternal pile pale. Wings hyaline, with only a suggestion of a smoky tinge; squamae white, with black fringe; halteres black; plumule black.

Abdomen shining blue-black, opaque on the disc of the second and anterior margin of the third tergite; pile mostly black, with yellowish to brownish hairs at the basal corners of the segments. Venter very lightly coated with gray pollen. Holotype is currently with J. E. Collin, Newmarket, England.

There are four males before us from El Cando, Chile, December 6, 1916 (F. Ruiz). •

Shannon and Aubertin raise a question that this species may be the male of *haemorrhoidalis*, but the latter is much paler, especially the legs and abdomen. The frontal triangle is considerably smaller and narrower than on *luctuosa*, and the scutellar bristles are also long and black, almost hair-like and pale on *luctuosa*.

### *Myiolepta haemorrhoidalis* (Philippi)

#### Figure 9

*Priomerus? haemorrhoidalis* PHILIPPI, 1865, Verhandl. Zool.-Bot. Gesell. Wien, vol. 15, p. 740.

*Myiolepta haemorrhoidalis* SHANNON AND AUBERTIN, 1933, Diptera of Patagonia and South Chile, vol. 6, p. 151.

Readily recognized by the reddish tip of the abdomen. The front has a very well-marked longitudinal groove, the sides pubescent and with



golden pile. Third segment of the antennae darkened above, scutellum with definite black bristles on the rim. The mid and hind pair of tibiae and basal segments of their tarsi are yellow to light brown.

We have examined two females from Hau-Hum, Lago Lacar, Neuquen, Argentina, December, 1946 (Hayward-Willink), and one male from Angol, Chile, November 13, 1926. The male is in the United States National Museum. It was originally described from Chile.

According to Prof. Maria Etcheverry, the type is not at the Museo Nacional in Santiago, where it is supposed to be.

*Myolepta apicalis* Fluke, new species

Figures 3, 5, 10, 27

Antennae yellow, thorax strongly vittate, apex of fourth tergite golden pruinose. Length, 7 to 7.5 mm.

MALE: Face coated with silvery gray to golden pubescence, mid-stripe from tubercle to mouth edge shining black; front with the same pubescence, having only a narrow arc above the antennae bare; cheeks pubescent behind, shining in front and broadly from eye to oral opening. Pile of front, face, and cheeks short, pale; ocellar triangle black, silvery pubescent in front of anterior ocellus, pile very short and black; occiput gray pubescent with pale pile. Antennae yellowish, the first segment a little darkened, upper edge of third also narrowly darker; arista bare, yellow with dark tips.

Thorax black with blue reflections on non-pollinose areas, the mesonotum with four grayish but often somewhat golden vittae, the pile black and short on the dark stripe, yellow on the gray vittae, numerous very short stubby spines just above the wing base. Pleura mostly shining blue, gray pollinose above the front coxae and lightly over the sternopleura; the pile sparse and pale; a few short pale hairs on the metasternum. Scutellum black, nearly quadrate, with a transverse depression on the apical third, the preapical depression very prominent, the whole surface rugulose, the pile short and generally golden in color.

Legs dark reddish, almost brown, somewhat paler at the bases of the femora; each femur with a double row of stubby spines below, confined mostly to the apical two-thirds on the four front femora; all the tibiae with short spines to match the femoral sets, but confined to the basal half. Pile of the legs inconspicuous, generally golden, more blackish on the hind femora. Wings completely hyaline, no clouding whatsoever, the stigma dilutely yellow. Squamae, halteres, and plumule yellowish.

Abdomen blue-black, with some purplish reflections; the apical border

and narrowly along the sides of each segment and considerably broader on the fourth, golden pollinose; the pile black, short but golden on the pollinose areas, paler and longer on the sides basally; venter pale pollinose, the genitalia shining reddish.

**FEMALE:** Front heavily coated with golden pubescence, a narrow but very distinct longitudinal groove; a broad transverse shining band above the antennae; the ocular area blue with purplish reflections, pile black. Third segment of the antennae considerably larger than in the male.

**TYPES:** Holotype male and allotype, Ingenio, Juarez, Formosa, Argentina, January 2-7, 1949 (R. Golbach), in the collection of the Fundación Miguel Lillo; paratypes, two males and five females, same data; one male, Uspallata, Mendoza, Argentina, January 14, 1947 (Willink); one female, Los-Sarmientos, Tucuman, Argentina, February, 1947 (Fernandez).

Paratypes in the American Museum, United States National Museum, and the Weems and Fluke collections.

*Myiolepta dolorosa* (Hull)

*Sarolepta dolorosa* HULL, 1941, Jour. Washington Acad. Sci., vol. 31, p. 436.

*Myiolepta dolorosa* HULL, 1949, Trans. Zool. Soc. London, vol. 26, p. 340.

This species is not represented in our collection. It was described from a single female from Venezuela, the holotype, which is in the Vienna Museum.

Vertex narrow; antennae orange-colored, the third segment very large. Mesonotum slaty gray, with a bluish cast, the pile black and depressed, the sides broadly bright orange, with flat, thickened, curly golden pile. The pleura of the same color, upper part of the mesopleura only with the curly pile. Scutellum triangular, the tip rounded. Legs black, the mid-metatarsi whitish. Wings smoky brown or gray, the tips narrowly whitish. Abdomen flattened, dull shining, with a bluish cast, a narrow median gray vitta; sides conspicuously pale cream colored; length, 8.5 mm.

*Myiolepta (Eumyiolepta) greeni* Hull

Figures 12, 29

*Myiolepta greeni* HULL, 1941, Jour. Washington Acad. Sci., vol. 31, p. 435.

This species is a transitional form between *Myiolepta* and *Eumyiolepta*, easily recognized by the short, subappressed, wiry pile arranged in closely approximated rows on the mesonotum, all hairs curving towards the scutellum, and the dark cloud in the middle of the wing. The front of both sexes has some golden, rather flat pile. Legs black, mid-basitarsi and

basal third of the hind tibiae yellow. Fourth tergite with long golden pile all pointing to the midline.

The male entirely like the female in general color and pilosity, the front shining just above the antennae with a patch of pale, yellow-colored flat pile in the ocular angle. The ocellar triangle is black with golden, flat pile which lies flat as if brushed forward; the lower angle with whitish pubescence and occasionally two or three erect, yellow, scale-like hairs.

The holotype female, from Villa Nougues, Province of Tucuman, Republic of Argentina, collected January, 1929, is in the United States National Museum (No. 52906). Allotype male by present designation: Villa Nougues, Argentina, December, 1928, in the Miguel Lillo Foundation, Tucuman, Argentina. Metatypes, same data as allotype, are in the American Museum of Natural History. A paratype female from Villa Nougues, Province of Tucuman, Republic of Argentina, January, 1929, is in the United States National Museum (No. 52906).

Strangely enough we have 13 specimens (both males and females) of this species, which have been compared with the holotype at Washington, all from apparently the same lot of the type material (Villa Nougues, Argentina, December, 1928) and identified as *M. schreiteri* Blanchard by E. E. Blanchard. We have been unable to locate any reference to such a species, so the name is probably a manuscript one. Lindner identified the same series as *Lepidostola abdominalis* Williston.

*Myiolepta (Eumyiolepta) auricaudata* Williston

Figures 6, 15

*Myiolepta auricaudata* WILLISTON, 1891, Biologia Centrali-Americana, Diptera, vol. 3, p. 40 fig.

*Myiolepta auricaudata* HINE, 1913, Ohio Nat., vol. 14, p. 210.

An uncommon species which is recognized by the scale-like vestiture on the mesonotum which is arranged in rows. It lacks the pale spots on the sides of the face that are found on *strigilata*.

Legs black, yellowish on the basal half or less of the tibiae and on the metatarsi of the mid-tarsi and hind tarsi. The spines on the under side of the hind femora are found on the entire length, and each tibia has two rows of tiny, appressed, black spicules on the under side basally. These latter are entirely absent on *strigilata*.

The abdomen is shining on the fourth tergite and on the sides of the others where the pile is scale-like and brassy in color; other areas are dulled, and the pile is blackish except finer and paler on the sides basally.

A single female from Sycamore Canyon Station, Cataline Mountains,

Arizona, August 20, 1916, is before us and agrees well with Williston's description. Also a male, Huachuca Mountains, Arizona, in the United States National Museum, has the mesonotal pile arranged similarly to that of the female.

*Myiolepta (Eumyiolepta) circularis* (Hull)

Figures 11, 30

*Eumyiolepta circularis* HULL, 1951, Jour. Washington Acad. Sci., vol. 31, p. 434.

Separable primarily by the circular appearance of the golden scales on the mesonotum; a band in front of the scutellum which reaches forward to the notopleura on each side and then inward along the transverse suture, but broadly interrupted in the middle; the inner ends of this band have indications of forward projections to connect with the scales on the inner slopes of the humeri. There is a gray pollinose median vitta on the anterior half of the mesonotum. The scutellum is almost triangular and does not have the apical groove so characteristic of the species of *Myiolepta*, *sensu stricto*.

Two males, both headless, and three females from the original type locality of Villa Nougés, Argentina, and apparently of the type series, are before us. Mr. W. W. Wirth, of the United States National Museum, kindly compared a female with the holotype and stated that they are identical. We are designating one of these males the allotype, which will be returned to the Miguel Lillo Foundation, Tucuman, Argentina.

The genitalia of this species and those of *Eumyiolepta greeni* are very similar and indicate that *Eumyiolepta* is not a well-founded genus. Hull has so indicated by making it only a subgenus of *Myiolepta*.

*Myiolepta (Eumyiolepta) strigilata* Loew

Figures 2, 20

*Myiolepta strigilata* LOEW, 1872, Centuria, vol. 10, p. 54.

*Myiolepta strigilata* WILLISTON, 1886, Bull. U. S. Natl. Mus., vol. 31, p. 127.

*Myiolepta strigilata* HINE, 1913, Ohio Nat., vol. 14, p. 207.

*Myiolepta strigilata* METCALF, 1913, Bull. Ohio Biol. Surv., no. 1, p. 83.

*Myiolepta (Eumyiolepta) strigilata* SHANNON, 1921, Bull. Brooklyn Ent. Soc., vol. 16, p. 125.

*Eumyiolepta strigilata* HULL, 1923, Ohio Jour. Sci., vol. 23, p. 296.

One of the smaller *Myiolepta*, rather robust, uniformly brown, with wings more or less pale yellowish, legs pale from apices of femora, except for distal tarsi. Eyes of male separated narrowly. Length, 5 to 7 mm.

MALE: Sides of face luteous, fine pubescent-pollinose; cheeks, tubercle, and vertex shining black. Broadly grayish pollinose beneath antennae and along inner eye margins. Lower part of front, sides of face, and continuing below and behind eyes clothed with yellowish to whitish scale-like hairs similar to those on legs, thorax, and abdomen. Eyes narrowly separated. Antennae brown; third segment somewhat elongate, light brown, with arista of same color.

Thorax black, with short, pale yellowish, sometimes partly whitish, appressed tomentum. Coxae, femora, except for distal tips, and two distal tarsi dark brown; tips of femora, tibiae, and three basal tarsi pale. Tibiae sometimes are slightly darker on distal half.

Dorsum of abdomen uniformly shining black, clothed with pale appressed tomentum, except for first tergite and narrowly along base of second, which are gray pollinose; venter wholly gray pollinose, white pilose.

FEMALE: Similar to male, but with grayish pollen on second abdominal tergite typically more extensive, and luteous bands of face narrower, so that between them and the pollinose area beneath the base of the antennae is formed a blackish "V." Front broad, shining black, sparsely clothed with pale tomentum, and narrowly gray pollinose along sides. Antennae light yellowish brown. Facial tubercle lacking; concavity beneath antennae not very pronounced.

Specimens before us are from Texas, Arizona, Oklahoma, Kansas, Mississippi, Missouri, Wisconsin, Illinois, Indiana, Iowa, Ohio, Washington, D. C., Maryland, Connecticut, Virginia, and North Carolina.

The type locality is Texas.

*Myiolepta (Eumiolepta) aurinota* Hine

Figures 16, 28

*Myiolepta aurinota* HINE, 1903, Canadian Ent., vol. 35, p. 245.

*Myiolepta aurinota* HINE, 1923, Ohio Nat., vol. 14, p. 209.

*Eumiolepta cornellia* SHANNON, 1923, Bull. Brooklyn Ent. Soc., vol. 18, p. 20.

Similar to *M. auricaudata* Williston, but differs in that tomentum on mesonotum is thicker, not arranged in distinct rows, as in *auricaudata*, third antennal segment is less elongate, and hind basitarsi are dark, basal two mid-tarsi pale, whereas in *auricaudata*, the basitarsi only of middle and hind legs are pale. From *strigilata* it is readily distinguished by the tibiae, which are pale on the basal third only, and in lacking the luteous stripes on the face which characterize *strigilata*. Length, 8 to 9 mm.

MALE: Face and front entirely dark in ground color, densely grayish or

silvery pollinose-pubescent, except for bare, shiny tubercle, posterior portion of cheeks, and area above base of antennae; anterior portion of vertical triangle also pollinose, ocellar triangle dark, shiny. Eyes contiguous. Antennae reddish brown, first two segments slightly darker and more shiny than third; third segment slightly narrower than long, arista similar in color to third antennal segment.

Mesonotum and scutellum rather densely covered with subappressed tomentum, which varies from golden to almost whitish; tomentum on pleura somewhat longer, and typically pale yellow to whitish.

All femora swollen, particularly the hind femora, each with two rows of strong black spines below, occurring only on the distal half of the front and middle femora; legs somewhat variable in color, clothed with tomentum, but femora always dark, and tibiae typically dark on distal half or more, basal two tarsi of middle legs pale, occasionally those of hind legs also.

In addition to black pile, which is distributed over most of the abdominal tergites, pale tomentum extends chiefly along the sides, across the rear margin of the third tergite, and over most of the fourth tergite. The venter is grayish pollinose, sparsely pale pilose. Along the sides of the dorsum of the abdomen is shiny black, but the disc of each tergite is thinly grayish pollinose, with a faint bluish reflection in some lights.

FEMALE: Similar to male, except that front is fairly broad.

Specimens before us are from Arizona, New Mexico, and Texas.

The holotype male, collected near Phoenix, Arizona, June 18, 1902, by J. T. Lloyd, is in the entomology museum of the Department of Zoology and Entomology, Ohio State University.

From examinations of the holotypes of *aurinota* Hine and *cornellia* Shannon (in the Cornell University collection), we were able to establish the fact that these constitute a single, somewhat variable species, exhibiting variations particularly in color and structure of the scale-like setae on thorax and abdomen.

*Myiolepta (Eumyiolepta) transversa* Hine

Figures 4, 14

*Myiolepta transversa* HINE, 1913, Ohio Nat., vol. 14, p. 208.

Mostly black in ground color. Anterior portion of thorax with two transverse golden bands, each interrupted at middle. Wings slightly fumose. Fourth abdominal segments, and sides of third, with dense golden tomentum. Length, 7 mm.

FEMALE: Eyes rather widely separated, front narrowed above, front

and face with a rather thin layer of golden pollen, cheeks and middle of face shiny black, antennae brown, third segment oblong, longer than other two segments combined, arista very near base, and of same color as segment which bears it.

Thorax black, in front with two narrow, golden transverse markings interrupted at middle, and a golden transverse spot before scutellum. Almost all of black background of dorsal surface of thorax covered with tiny black setae, set in tiny black sockets; a few scattered black setae, and also a few scattered, and still tinier, yellow setae, on the yellow pollinose areas. When viewed from above, two yellowish pollinose areas are seen towards front of thorax above the neck, almost hidden by the head; faintly shiny black stripes on mesonotum are quite inconspicuous. Posterior calli covered predominantly with tiny black setae, but a few yellow setae are scattered over their anterior ends. Scutellum black on basal half, becoming very faintly grayish yellow pollinose past middle, and more distinctly yellowish pollinose towards posterior margin, but not so distinctly yellow as markings on mesonotum; black setae along posterior margin of scutellum not conspicuous, but larger than any others on thorax.

Femora dark brown or nearly black, tibiae lighter, especially at bases, middle and hind tarsi pale brown, front tarsi nearly black.

Abdomen black in ground color, fourth segment and sides of third with golden vestiture.

As Hine indicated in the description, this species shows affinities to both *Myolepta* and *Syritta*. The concavity beneath the bases of the antennae is very short; a prominent, broadly arched carina extends from this concavity to the oral margin—a character that does not agree entirely with either genus. The hind femur is larger than that of the other legs, but is otherwise as in *Myolepta*; the anterior cross vein is plainly before the middle of the discal cell, while the petiole of the first basal cell is long, agreeing with that of *Syritta*, and of *Myolepta haemorrhoidalis* (Philippi), from Chile.

Our description is based on a single specimen, the holotype female, taken at Puerto Cortez, Honduras, March 23, 1905. This type is in the entomology museum of the Department of Zoology and Entomology, Ohio State University.

*Myolepta (Eumyiolepta) braziliana* (Shannon)

*Eumyiolepta braziliana* SHANNON, 1927, Proc. U. S. Natl. Mus., vol. 70, p. 14.

This species is not before us. The holotype, a male, described from Theresopolis, is in the British Museum.

It was described as small, 5 mm., with scattered white scales on the mesonotum, brownish spots on the second and third tergites, and with a faint cloud on the anterior border of the wings near the apex. The apical cross vein is twice angled with short spurs at the apices of the angles, and the posterior cross vein is inwardly angulated, with a spur.

*Myolepta (Eumyiolepta) minuta* Fluke, new species

Figures 17, 32

A small, shining black species, apex of the wing with three black spots. Length, 5.5 to 6 mm.

MALE: Face shining black with gray pubescence on the lower slopes which is connected narrowly to a broad band beneath the antennae; cheeks shining; the pile fine and pale; front shining black, the border gray pubescent and with four or five short whitish scales in the ocular angle; ocellar triangle shining black, with very short black pile, two or three scales just posterior to the anterior ocellus usually present; occiput gray to golden pubescent. Facial tubercle on the male rounded and not prominent. Antennae pale yellow, the arista somewhat darker.

Thorax shining black, anterior slopes of the mesonotum gray pollinose; mesonotum with very short black depressed pile and scattered yellow to white scales that are more numerous along the sides; scales on the pleura confined to a band below the wing base; scutellum similar to the mesonotum, the apical rim paler in color.

Legs shining black; nearly the basal half of the hind tibiae, all the mid-tibiae and anterior tibiae, the fore metatarsi, and the basal three segments of the mid-tarsi and hind tarsi yellow. Pile of the legs inconspicuous; the usual black setae on the apical half underneath the femora and the basal half below on the tibiae are present.

Wings hyaline, with dark brown or black spots at the apex; one spot each in the marginal, submarginal, and first posterior cells; the apical cross vein strongly concave inwardly.

Abdomen shining black, somewhat paler near the base, the first segment above and below gray pollinose; the disc of the second and third tergites opaque. Pile inconspicuous, pale colored along the sides and apex, black and depressed down the back.

FEMALE: Very similar to male, the front wide, entirely shining, with scattered yellowish scales; the front tibiae somewhat darker than in the male.

TYPES: Holotype male, Locavera, Tafi, Tucuman, Argentina, September 22-28, 1951 (Aczel and Golbach); allotype female, Villa Padre Monti, Tucuman (Burruyacu), Argentina, July, 1928. Paratypes: one



male, same as allotype; a pair, Quebrada La Toma, Tafi, Tucuman, Argentina; and one male, Villa Nougues, December 1928.) Types in the Foundation Miguel Lillo, Tucuman, Argentina.

This species is probably close to Shannon's *brasiliiana*, a species we have not seen, but the wing characters are so different that we do not believe they can be the same.

*Myolepta (Eumyolepta) scintillans* (Hull)

*Lepidostola scintillans* HULL, 1946, Amer. Mus. Novitates, no. 1326, p. 3, figs. 12, 20, 31.

*Lepidostola (Protolepidostola) scintillans* HULL, 1949, Trans. Zool. Soc. London, vol. 26, p. 333.

This species was originally described by its author in the genus *Lepidostola*, and later he realized its lack of affinities to typical species of the genus, and therefore erected a subgenus (*Protolepidostola*) for its reception. We believe it belongs with the Myoleptini and choose to place it in the subgenus *Eumyolepta*. The holotype is before us, but, as it is the lone representative, we hesitate to pull the genitalia for study.

It cannot belong to *Lepidostola* because of the short oval third segment of the antennae. The flat, scale-like vestiture on the mesonotum is characteristic of *Eumyolepta* as well as of *Lepidostola*.

Whenever the female is found it will probably settle the generic difficulties. A full description and illustrations will be found in Hull (1946). The holotype is in the American Museum of Natural History.

*CHALCOSYRPHUS* CURRAN

*Chalcomyia (Chalcosyrphus)* CURRAN, "1924" [1925], Kansas Univ. Sci. Bull., vol. 15, p. 122. Type species, *Chalcomyia depressa* Shannon.

*Chalcosyrphus* CURRAN, 1926, Ent. News, vol. 37, p. 299.

The genus is amply distinct in the structure of the genitalia, which are much smaller than those of other members of the *Myoleptini*. The styles are bimorphological; the left style, as seen from below, has a deeper and wider cleft basally, with a distinct proximal tooth. The mesonotum is flattened in front of the scutellum, and the metasternum is hairy. Both sexes are non-tuberculate on the face, and the male is narrowly dichoptic. Abdomen somewhat constricted on the second segment.

*Chalcosyrphus depressus* (Shannon)

Figures 8, 21, 22

*Chalcosyrphus atra* CURRAN, "1924" [1925], Kansas Univ. Sci. Bull., vol. 15, p. 122.

*Chalcomyia depressa* SHANNON, 1925, Occas. Papers Boston Soc. Nat. Hist., vol. 5, p. 153.

*Chalcosyrphus depressus* CURRAN, 1926, Ent. News, vol. 37, p. 299.

A shining blue-black species, opaque on the apical margins of the second and third abdominal segments and basal margin of the second; mesonotum lightly pollinose, not so shining. The pile is generally pale and short, inconspicuous.

Curran's species *atra*, while bearing the date 1924, was not published until after Shannon's publication in 1925.

This species was described from Idaho. The type specimens, both holotype and allotype, are in the United States National Museum (U.S.N.M. No. 27835).

Two male specimens before us are from Signal Peak, Washington, Ranger Station, June 21, 1935 (S. E. Crumb).

### CYNORHINELLA CURRAN

*Cynorhinella* CURRAN, 1922, Canadian Ent., vol. 54, p. 14. Type species, *Cynorhinella canadensis* Curran.

*Apicomomyia* SHANNON, 1922, Insecutor Inscitiae Menstruus, vol. 10, p. 122.

*Cynorhinella* CURRAN, 1923, Canadian Ent., vol. 55, p. 155.

*Cynorhinella* CURRAN, "1924" [1925], Kansas Univ. Sci. Bull., vol. 15, p. 123.

*Cynorhinella* SHANNON, 1924, Occas. Papers Boston Soc. Nat. Hist., vol. 5, p. 123.

Head triangular from front view, face black, tuberculate in both sexes, considerably produced downward. Eyes of male holoptic. Metasternum without pile, hind femora enlarged, a triangular projection on the outer apical end; anterior cross vein joining discal cell well before its middle.

This genus is mentioned here since it has been confused with *Myiolepta*. Lovett (1920, Proc. California Acad. Sci., vol. 10, p. 51) described his new species *carbicolor* in *Myiolepta*, but an examination of the paratype shows that it is a synonym of *Cynorhinella bella* (Williston), in the tribe Cheilosini.

### LEIOTA RONDANI

*Leiota* RONDANI, 1857, Dipterologica Italicae prodromus, vol. 2, p. 176. Type species, *Psilota ruficornis* Zetterstedt.

*Chalcomyia* WILLISTON, 1885, Bull. Brooklyn Ent. Soc., vol. 7, p. 133.

*Chalcomyia* WILLISTON, 1886, Bull. U. S. Natl. Mus., vol. 31, p. 126.

*Chalcomyia* SHANNON, 1926, Proc. Ent. Soc. Washington, vol. 28, p. 112.

*Chalcomyia* CURRAN, 1926, Ent. News, vol. 37, p. 299.

*Leiota* GOFFE, 1944, Ent. Monthly Mag., vol. 80, p. 28.

*Leiota* GOFFE, 1944, Ent. Monthly Mag., vol. 80, p. 187.

Body vestiture normal, no flattened scale-like pile; antennae short, with dorsal arista; males broadly dichoptic; metasternum bare; marginal cell of the wings open, the anterior cross vein (r-m) distinctly before the middle of the discal cell (1st  $M_2$ ); scutellum large, nearly square. The genitalia distinctive, aedeagus long and slender.

The type species (*ruficornis* Zetterstedt) has not been examined, and the genitalia pictured here for *cyanea* and *aerea* may not be the same as those of the European *ruficornis*.

The two recognizable species from the Americas can be separated as follows:

Legs entirely black, pile of the mesonotum erect with black hairs scattered among the yellowish pile . . . . . *cyanea* (Smith)  
Base of the tibiae and usually the tarsal segments yellow or at least paler, mesonotal pile all yellow and generally depressed . . . . . *aerea* (Loew)

*Leiota cyanea* (Smith)

Figure 19

*Chalcomyia cyaneus* SMITH, 1912, Proc. Ent. Soc. Washington, vol. 14, p. 119.

*Chalcomyia calcitrans* CURRAN, 1921, Canadian Ent., vol. 53, p. 260.

*Chalcomyia cyaneus* SHANNON, 1925, Occas. Papers Boston Soc. Nat. Hist., vol. 5, p. 153. (Synonymy.)

Quite similar to *aerea*, and the genitalia show the close relationship of these two species; *cyanea* is much darker, with almost entirely black legs, and the wing veins are brown.

The face of the male has a low, broadly rounded tubercle, and the thoracic pile is more erect, with some black hairs along the sides of the dorsum, scutellum without a beaded edge; otherwise quite similar to *aerea*. Length, 8.5 mm.

Originally described from New Hampshire, it has been reported from Orillia and McDiarmid, Ontario, and a male from Palmer, Alaska, May 27, 1950 (R. H. Washborn), is before us.

The two male cotypes from Franconia, New Hampshire, collected by Mrs. A. T. Slosson, are in the United States National Museum (U.S.N.M. No. 14636).

*Leiota aerea* (Loew)

Figures 7, 18

*Myiolepta aerea* LOEW, 1872, Berliner Ent. Zeitschr., vol. 10, p. 53.

*Chalcomyia aerea* WILLISTON, 1886, Bull. U. S. Natl. Mus., vol. 31, p. 126, fig.

*Chalcomyia aerea* METCALF, 1913, Ohio Biol. Surv., vol. 1, p. 63.

*Chalcomyia aerea* MALLOCH, 1919, Ent. News., vol. 30, p. 25, larva.

*Chalcomyia aerea* SHANNON, Occas. Papers Boston Soc. Nat. Hist., vol. 5, p. 151.

A shining, bronze-colored species, with yellow pile. The antennal base of the male very prominent, the sides coated with a silvery sheen, beneath the antennae shining but the broad slopes and main ridge of the face coated with very fine golden pubescence. The pubescence on the female is limited to a narrow band from the tip of the oral opening to the eye margin.

Legs black, narrow apex of the femora, basal fourth and narrow apex of the tibiae, and the basal two segments of the tarsi yellow. Wings hyaline, the veins yellow.

Scutellum quadrate, the apical margin beaded, and a shallow transverse depression before the apex.

Length, about 8 mm.

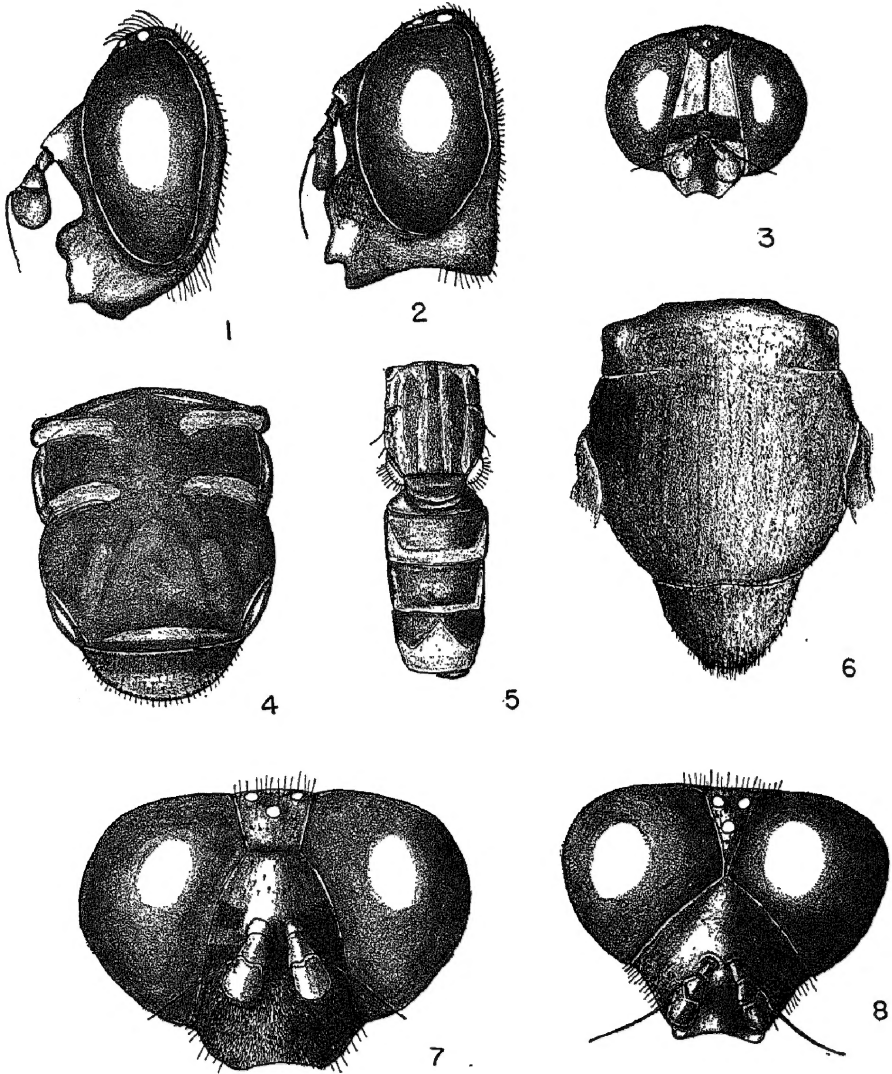
Specimens before us are from Illinois, Wisconsin, North Carolina, Kansas, Ohio, Pennsylvania, and Virginia. This species has also been recorded from as far west as Nebraska, and east to Massachusetts.

*Leiota anomala* (Shannon)

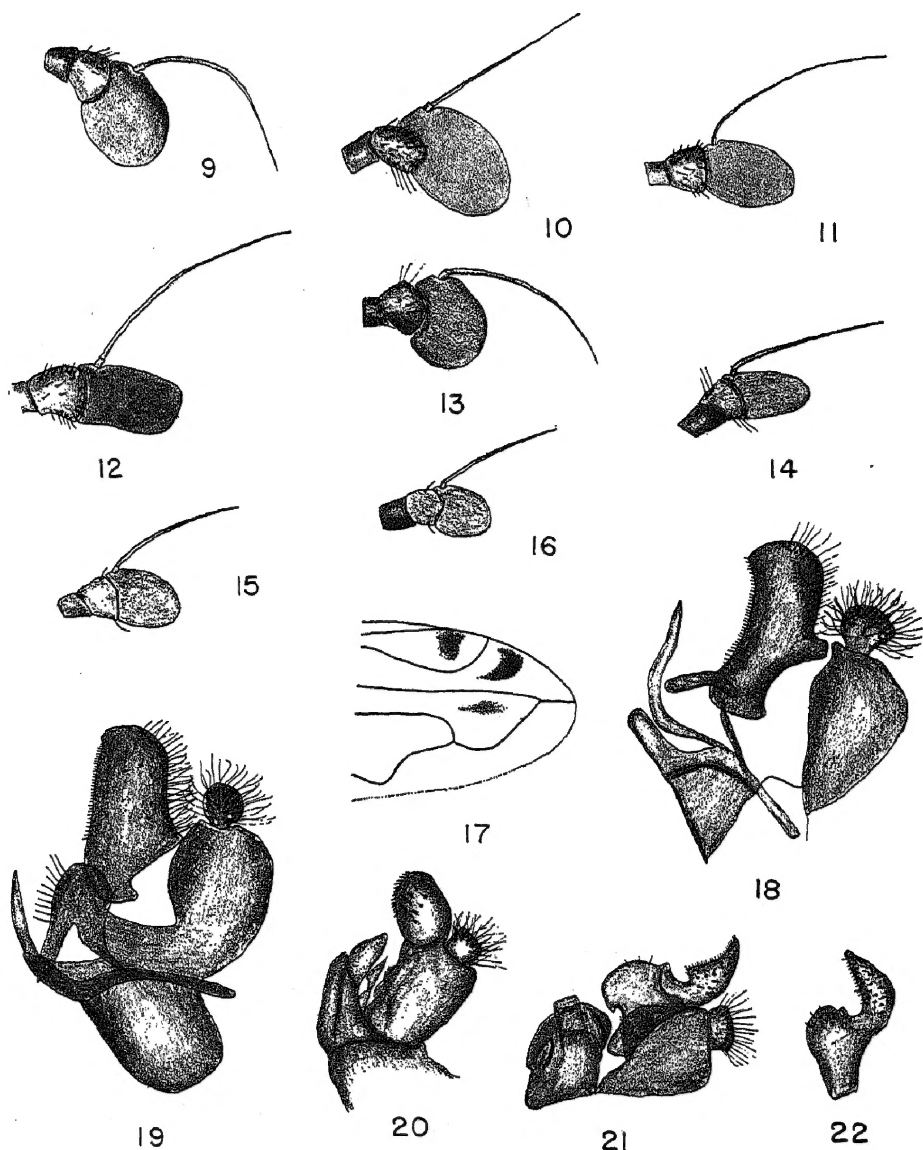
*Chalcomyia? anomala* SHANNON, 1925, Occas. Papers Boston Soc. Nat. Hist., vol. 5, p. 153; New Jersey.

*Chalcomyia? anomala* CURRAN, 1926, Ent. News, vol. 37, p. 299.

We have been unable to recognize this species among our specimens. The wing characters used by Shannon do not help to place it, as the other two species in the genus have the anterior cross vein joining the discal cell very close to its middle, although, admittedly, a little in front. As Curran suggests, this species may not belong in this genus, and until the type is examined, it will remain uncertain as to its generic affiliations. The holotype is in the Museum of Comparative Zoölogy, Cambridge, Massachusetts.



FIGS. 1-8. Myoleptini. 1. *Myolepta varipes* Loew, head of male. 2. *M. strigilata* Loew, head of male. 3. *M. apicalis* Fluke, new species, head of female. 4. *M. transversa* Hine, mesonotum. 5. *M. apicalis* Fluke, new species, mesonotum and abdomen of male. 6. *M. auricaudata* Williston, mesonotum. 7. *Leiota aerea* (Loew), head of male. 8. *Chalcosyrphus depressus* (Shannon), head of male.

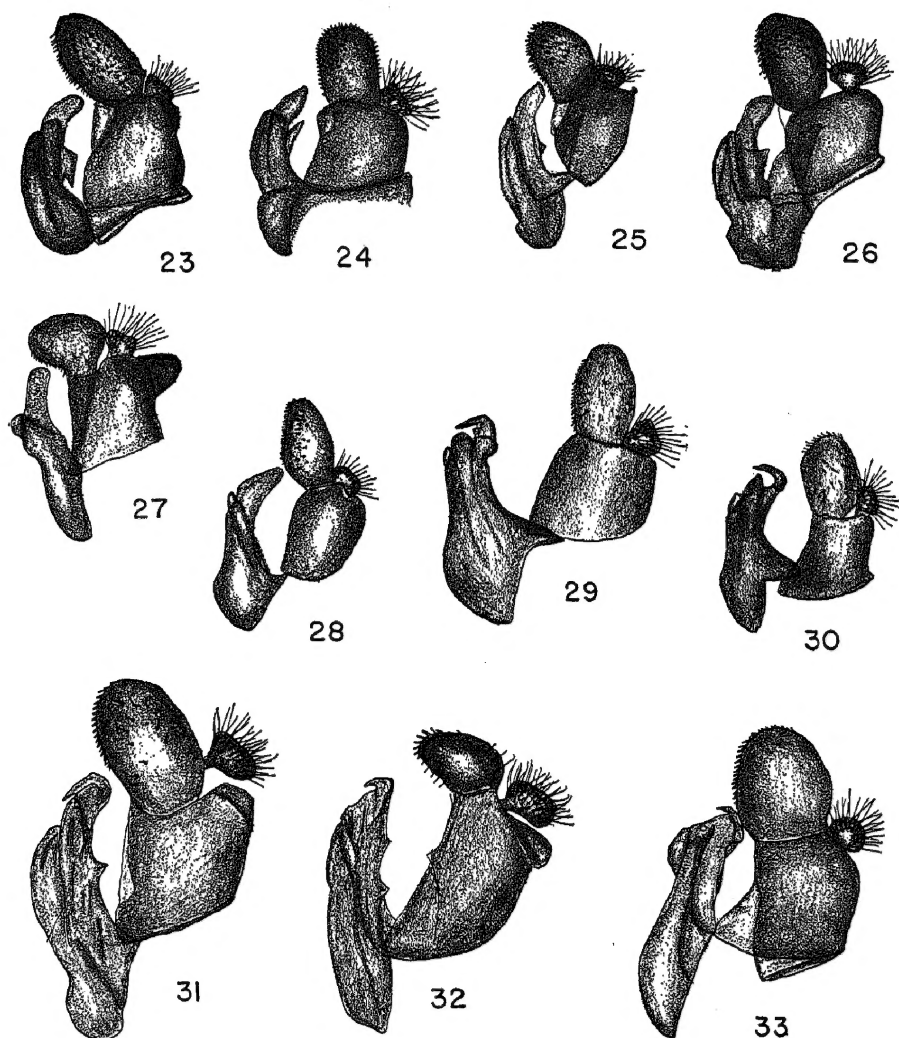


FIGS. 9-16. Antennae of *Myolepta*. 9. *M. haemorrhoidalis* (Philippi). 10. *M. apicalis* Fluke, new species. 11. *M. circularis* (Hull). 12. *M. greeni* Hull. 13. *M. luctuosa* (Bigot). 14. *M. transversa* Hine. 15. *M. auricaudata* Williston. 16. *M. aurinota* Hine.

FIG. 17. Apex of wing of *Myolepta minuta* Fluke, new species.

FIGS. 18-21. Genitalia. 18. *Leiota aerea* (Loew). 19. *L. cyanea* (Smith). 20. *Myolepta strigilata* Loew. 21. *Chalcosyrphus depressus* (Shannon).

FIG. 22. Inner side of left style of *Chalcosyrphus depressus* (Shannon).



FIGS. 23-32. Male genitalia of *Myolepta* species. 23. *M. luteola* Gmelin. 24. *M. nigra* Loew. 25. *M. varipes* Loew. 26. *M. lunulata* Bigot. 27. *M. apicalis* Fluke, new species. 28. *M. aurinota* Hine. 29. *M. greenei* Hull. 30. *M. circularis* (Hull). 31. *M. camillae* Weems, new species. 32. *M. minuta* Fluke, new species.

FIG. 33. Genitalia of *Lepidostola vulturella* Hull.